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THE PIGEON RIVER
ATIKAKI PROVINCIAL PARK

A Management Plan

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THE PIGEON RIVER

Atikaki Provincial Park

INTRODUCTION: The Headwaters of a Management Plan

Born in the still, sky-blue waters of Family Lake in south-central Manitoba, the Pigeon River flows approximately 115 miles to its mouth on the eastern shore of Lake Winnipeg. Its wide, meandering course, broken only by the roar of waterfalls and rapids, takes the Pigeon River through the heart of Atikaki Provincial Park. No all-season roads cut its course; no settlements crowd its banks; no water projects or diversions still its flow; no major timber operations or mineral developments mar its beauty. The Pigeon River flows as a rare wilderness river.

The wildness of the Pigeon River is a valuable natural resource. Throughout North America rivers have been harnessed to light the lights and turn the turbines of industry. Their waters have irrigated crops and brought drinking supplies to municipalities. For centuries rivers have been looked upon as natural workhorses, valued only for their ability to do Man's work until only a small percentage of the continent's rivers have not been dammed, diverted, polluted or channelized.

It is estimated that there are more than 50,000 dams on the rivers of the United States today with more than 200 others in construction. Applications for new water projects increased 636% between the years 1979 and 1984. In all, it is estimated that

more than 500,000 miles of river in the United States have been "subjected to degradation" and another 5,000 to 10,000 miles of wild, free-flowing rivers are degraded annually. In the face of such figures, the natural state of the Pigeon River ecosystem becomes a valuable and rare resource.

Wild rivers and wilderness parks provide a range of values to the public. In pioneer studies by Dr. John Loomis of the Natural Resource Economics Department of Colorado State University, these values including recreation, protection of wildlife habitat, opportunity for solitude, fisheries, scenery, and providing income for the tourist industry, were rated. In the case of both wilderness and wild rivers protection of water quality and concerns for wildlife habitat ranked above the opportunity for recreation. Yet all the values were seen as ranking above the potential of development.

With the realization of the values of wilderness and wild rivers, agencies empowered with the responsibility for managing these resources are faced with the challenge of both protecting the wilderness values of a landscape and at the same time providing public access and recreational opportunities.

In 1985, the Manitoba Parks Branch began efforts to devise a management plan which would encourage the use of the Pigeon River for recreation, including both wilderness canoeing and whitewater rafting, while at the same time preserving the area's most precious natural resource: its wildness. The following report is a part of those efforts and will focus on the recreational use of

the Pigeon River primarily in that section of river within the current boundaries of Atikaki Provincial Park. This report should be integrated into other studies and management proposals for the Pigeon River and Atikaki Provincial Park in an operation plan to keep the Park and its rivers wild while opening up the recreational opportunities of this pristine landscape to the wilderness traveler.

River Recreation in Atikaki Provincial Park

The vision of a river changes through the years. From a time beginning with the Ojibway Indians 2,000 years ago and continuing through the fur trappers of the early 18th-century and even to some extent with the trappers and hunters on the river today, the challenging falls and rapids, long portages and stronger flow of the Pigeon River have been looked upon as obstacles. With the easier routes of the nearby Leyond and Berens Rivers, the Pigeon River has, for years, been mostly avoided. Yet, with today's advent of whitewater recreation and safer boating equipment it is those same features which make the Pigeon River attractive for whitewater rafters. The routes of the Bloodvein and Leyond Rivers within the Park continue to attract wilderness canoeists.

A river is a natural pathway into a wilderness. In a place such as Atikaki Provincial Park where road access is limited and hiking trails are few, river recreation is the key to developing the wilderness opportunities. Both wilderness canoeing and whitewater rafting have a place in Atikaki Provincial Park.

The Park, with its system of interconnecting lakes and rivers in a wilderness setting, offers one of the largest and most remote wilderness canoeing resources in North America. With its three main rivers -- the Bloodvein, the Pigeon and the Leyond -- and its many tributaries and headwater lake routes, the Park offers a potential for extended wilderness canoe travel comparable to the Boundary Waters Canoe Area in northern Minnesota and the contiguous Quetico Provincial Park in Ontario, as well as the Allagash Waterway Park in Maine. This value, the potential for extended wilderness, non-motorized river touring should be the primary recreational use of Atikaki Provincial Park.

Within the framework of a management plan focusing on non-motorized river recreation in the Park, whitewater rafting should be the primary use of designated sections of the Pigeon River. Canoeing is a more specialized form of river recreation requiring each paddler to have experience and skill in handling the craft. Except in the case of expert paddlers, canoes are not suitable to run many of the major falls and rapids within the Park. The limited whitewater ability of the canoe as a craft means more portages will be required than with a raft. The need for long portages, the specialized skills necessary to safely operate a canoe on the river and the smaller quantities of gear that can be carried in a canoe will limit the portion of the public that will be able to enjoy the Pigeon River through wilderness canoeing alone.

A raft operated by a skilled boatman offers the passenger

with little whitewater experience or skill the opportunity to travel the wilderness in safety and comfort. A 1980 study on the rivers of Idaho showed that 91% of the people using commercial rafting services said that they would not have gone on the river without the outfitter, showing that commercial guiding services open the wilderness door to a new segment of society.

The whitewater capabilities of the raft as a craft mean that, with a skilled and properly trained boatman at the oars, most of the rapids and falls within Atikaki Provincial Park and particularly on the Pigeon River can be run safely adding whitewater excitement to the wilderness values of a raft trip.

Recent trends in the sport of river running bear out the necessity of offering both canoeing and rafting within the recreational framework of the Park.

Studies of river use in the United States show a slow but steady balancing in the ratio of private boaters (those who do the trip with their own gear and expertise) to commercial users (those who hire guiding and outfitting services). Where once, in the early 1970's at the beginning of the river running boom, nearly 90% of river runners sought commercial assistance and only 10% did it on their own, now the average on most commercially-run rivers is 65% commercial to 35% private.

Two factors are primarily responsible for this change. The same 1980 Idaho Rivers Study showed that 67% of the commercial passengers were on their first river trip. Other studies have shown that an even higher percentage of people begin their river running experience with commercial rafting outfitters. While these surveys also show most of the participants planning on

taking another commercial river trip, many also planned to purchase equipment and learn the skills necessary to do private trips in the future. These studies bear out the conclusion that many commercial users who take raft trips to first experience river running become private river runners in the future.

The second factor is the advent of a more competitive outdoor equipment industry. The cost of purchasing river running equipment has dropped substantially in the last decade allowing many ex-commercial passengers to obtain the gear needed to mount their own trips. Still, with the relatively high cost of a whitewater raft versus a wilderness canoe, many one-time commercial passengers purchase canoes and seek rivers like those found in Atikaki Provincial Park.

Yet, commercial use figures continue to grow on most rivers showing the importance of commercial whitewater boating in offering wilderness recreation to a segment of the population not capable or willing to purchase the equipment or acquire the skills necessary to participate in private boating. Atikaki Provincial Park, through a system of canoe routes and designation of motorized routes on segments of the Pigeon River suitable to whitewater use has the opportunity to satisfy both sides of the river running market.

The Suitability of the Pigeon River for Whitewater Rafting

The suitability of a river for whitewater rafting is made up of several components. The most obvious is whitewater and the

most obvious factor in whitewater is river gradient. The Pigeon River drops 237 feet in its 115 mile course, an average gradient of 2.1 feet/mile. This compares with a gradient of 8 feet/mile over 230 miles in the Grand Canyon of the Colorado, 40 feet/mile over 18 miles of the Tuolumne River in California and 30 feet/mile in Browns Canyon of the Arkansas River in Colorado, all popular whitewater rafting rivers.

Despite its low gradient, the Pigeon River does have sections of exciting whitewater -- 34 major rapids in its 115 mile course ranging from small sections of fast water to dramatic falls (see Description of Whitewater in Appendix B). With the exception of Shining Falls near the headwaters and Sturgeon Falls near the rivers mouth, neither of which is on the section of the river most suited to commercial rafting, all of the rapids and falls are runnable for qualified boatmen at suitable water levels. The whitewater on the river ranges from Class I to Class IV on the International Whitewater Scale (see Appendix A).

Unlike the rapids on many of the major boating rivers in the United States where long stretches of whitewater are created by alluvial fans from sidecanyon tributaries, the major obstacles on the Pigeon River are the product of uneven erosional patterns resulting in abrupt, single-drop falls. This makes the whitewater more dramatic but also more short-lived. In addition, the different and more powerful hydraulics caused by this type of whitewater require special training and safety precautions for safe river running.

The brevity of the falls and rapids do not offer the extended excitement of the whitewater experience on other rivers

in North America. The steepness of these falls and rapids do however make for dramatic whitewater in a beautiful and remote setting.

Almost no whitewater river anywhere that is run on a regular commercial basis is made up of rapids from start to finish. Therefore there are other considerations in determining the suitability of a river for commercial whitewater rafting.

Studies show that scenery is an important factor in the values of river running. Cutting through a variety of landscapes from muskeg flats to short, narrow rock canyons and sections of sandy beaches, the Pigeon River offers a spectrum of scenic vistas. Recent fire scars mar the beauty in places but are a part of the natural course of the ecosystem. The fire tower at Round Lake, the small plywood shed just below Grant Falls, the water gauge at the outlet of Round Lake and the cutline for a powerline corridor are among the only man-made objects visible from the waterway.

While the scenery along the banks of the river is wild, it is not dramatic. The waterfalls and rapids are the main focus of the area's scenic beauty. The large, dramatic falls shimmering white against the rocks are high in scenic value and are rare along whitewater rivers elsewhere.

With black bear, woodland caribou, bald eagle, river otter, beaver and osprey along the river, the opportunity for wildlife viewing is high. The wilderness setting and complex ecosystems of the Pigeon River make it home to many more wildlife species than most whitewater rivers in North America.

The factor most detrimental to the Pigeon River is the lack of current between whitewater sections. Time spent drifting on a river's flatwater enjoying the solitude, listening to the silence, watching wildlife and birds, and interpretation of the landscape by a guide or naturalist is vital to the total river running experience. The low gradient of the Pigeon River does not create adequate currents between sections of whitewater for easy travel in conventional non-motorized rafts. Outboard motors are currently being used to speed the travel time between rapids on the Pigeon River.

For those passengers experienced in rafting on other commercially-run rivers in North America, the presence of an outboard motor will be intrusive on the wilderness feeling. The noise of the outboard will lessen the opportunity for wildlife viewing and so lower the value of a Pigeon River trip. Steps such as the potential use of "catboats", limiting the size of outboards, and designating certain sections of Atikaki Provincial Park off-limits to motorized use may go a long way towards alleviating or lessening the impact on the wilderness values.

In terms of whitewater rafting, the Pigeon River can be divided into three major sections: Shining Falls to Vickers Lake, Vickers Lake to Round Lake, and Round Lake to Lake Winnipeg.

1) Shining Falls to Vickers Lake -- Shining Falls is the first and one of the most beautiful of the Pigeon River falls. This ribbon of whitewater signals the start of the Pigeon River from its headwaters at Family Lake. The steep falls is a beautiful beginning to a river yet in terms of whitewater rafting the falls is too difficult and dangerous for the skills of almost

any canoeist and not safe for running frequently on a commercial basis even in rafts. Portaging the falls means a long (400 paces) carry at the very beginning of a trip. Canoeists, whether private boaters or on a commercial expedition, will find the portage difficult but worthwhile considering the beauty of the falls, the solitude of the area and the satisfaction of paddling a river from its headwaters. Rafters, particularly commercial passengers on a guided trip, will have a more difficult time with a portage of this magnitude so early in the trip. On a commercial basis, such a portage is not considered feasible.

Putting in with commercial rafts just below Shining Falls solves the difficulty of the portage yet the river drops just 75 feet in the 32 river miles before Vickers Lake (an average of 2.3 feet/mile) with a major portion of the drop accounted for by Shining Falls. The low gradient creates a river too slow to accomodate whitewater rafts without outboard motors and offering little in the way of whitewater excitement. Although the scenic quality of this upper stretch of the river is good, it is similar to other parts of the river. These factors combine to make this section of low appeal to commercial whitewater rafters.

The solitude of the area, the satisfaction of paddling from a river's headwaters, the easy access, the wilderness quality and the potential for connected routes from the other major rivers in the area make this section of the Pigeon River of high importance to the development of wilderness canoe routes. Therefore, the stretch of river from Shining Falls to Vickers Lake should be designated as a non-motorized wilderness canoe route.

Potential development of sport fishing lodges on the headwaters of the Pigeon River will require the use of motorized boats. In other similar areas where motorized fishing use and wilderness canoe routes overlap such as the Boundary Waters Canoe Area, limits have been set on the size of outboard motors allowed. The size of the motors allowed for use by rafts on the designated motorized sections of the Pigeon River should not exceed 10 horsepower. Horsepower of outboards allowed for fishing boats used on lakes which are part of a designated canoe routes should not exceed 25 horsepower. The presence of motorized boats will present only a limited impact on the wilderness experience of canoeists traveling extended routes if other portions of the route including the Bloodvein River, the Berens River and sections of the Pigeon River not suitable for whitewater rafting are designated non-motorized canoe routes. The presence of a limited number of lodges constructed off the main route of travel will not impact greatly on the wilderness value.

2) Vickers Lake to Round Lake -- Here the Pigeon River comes alive. In the 20 river miles from the Outlet of Vickers Lake to the inlet of Round Lake, the river drops 115 feet for an average of 5.75 feet/mile. This stretch is dotted with falls and rapids, at least 22 sets marked by the Canoe Routes Map of the Manitoba Parks Branch. A field survey of this stretch done at low water in October of 1986 recorded 16 major rapids. High water trips done in June of 1984 showed many more sections of "fast water" than marked on the Canoe Routes Map.

The rapids and falls here vary from stretches of fast water in narrow canyons to stunning waterfalls. Some, like many of the

unnamed rapids, are passable by canoeists with intermediate to advanced skills. All of the major obstacles on this stretch can be run by a skilled rafter at most waterlevels. All of the major obstacles on this stretch can be portaged by canoeists.

With the increased gradient and higher number of rapids and falls per mile, this is the section of the Pigeon River most suited to commercial whitewater rafting. Whitewater such as Anniversary Falls, Grants Falls and many nameless drops are runnable for qualified commercial boatmen and offer the passenger thrills and beauty. Others, such as Island Falls, S.O.B. and Crooked Foot Falls are more challenging and should be run only by boatmen of expert skill levels with proper equipment and safety training. With the proper skills, equipment, safety training and suitable water levels, even these rapids can be run commercially. At very low water, all three of the major obstacles -- S.O.B., Crooked Foot and Island Falls -- can be portaged or lined by rafting parties with a minimum of effort.

Water levels on this stretch of river vary from a recorded high of 379 cubic meters/second (cm/s) on June 9, 1959 to a recorded low of 9.74 cm/s on January 19, 1977. With flows averaging 74.4 cm/s in May, 149 cm/s in June, 156 cm/s in July, 119 cm/s in August, 94.2 cm/s in September and 87.3 cm/s in October, the length of the rafting season will be confined more by the weather conditions than by water levels.

The scenery encountered on this stretch of river is outstanding, varying between narrow granite gorges, open marshlands and mixed forest cover. This scenery is greatly

enhanced by the beauty of the many falls and rapids. With easy access points of Vickers Lake and the take-out point of Round Lake, the quality scenery, the wilderness values, the high number of suitable campsites and the high number of falls and rapids, this is the heart of the river and the stretch most suited to a commercial whitewater operation. Whitewater rafting should be the primary use of the section of river from Vickers Lake to Round Lake with the intergration of extended canoe routes as a secondary use.

Despite the increased gradient and density of whitewater on this stretch, the lack of current on the flatwater still poses a problem for the rafter. The use of catboats (described below) should be tested by the outfitters and Manitoba Parks Branch to determine the need for outboard motors on this stretch of river. If outboards are required, a limit of 10 horsepower should be set and the use of motors limited to the area from the outlet of Vickers Lake to the established take-out site at Round Lake.

The presence of motorized rafts will adversely impact on the wilderness canoe use of this stretch of river. Impacts can be lessened by limiting the number of motorized trips allowed on the river at one time and by designating other stretches of the Pigeon River, as well as other sections of Atikaki Provincial Park as non-motorized canoe routes.

3) Round Lake to Lake Winnipeg -- A river in transition, the Pigeon River downstream of Round Lake becomes less attractive to whitewater boaters as it nears its mouth at Lake Winnipeg. Although the river drops considerably as it leaves the lake, falling 50 feet in 11 miles and passing through three scenic

rapids, it then calms into a 13-mile stretch of muskeg with virtually no measurable gradient. The falls and rapids in the 11 miles downstream from the lake are very scenic but do not pose as great a challenge to the whitewater rafter as those upstream of Round Lake.

Sturgeon Falls, a 16-foot drop, is located approximately 18 miles upstream of the river's mouth, far below the take-out point of most raft trips near Windigo Lake. Like its counterpart Shining Falls at the headwaters of the river, Sturgeon Falls is beautiful but not suitable for safe commercial rafting on a regular basis.

The same lack of gradient which creates stretches of flatwater and swampland means that there are few suitable campsites for large groups along this stretch of river. Less exciting whitewater, the greater need to run the outboard motor, less dramatic scenery, and the current boundary of Atikaki Provincial Park which lies near the outlet of Round Lake and the logical use of Round Lake for a take-out site, make this stretch of river less attractive to a commercial whitewater industry.

A canoe, which can travel much more rapidly over flatwater than a non-motorized raft will find less difficulty in the section of river below Round Lake. Several of the larger falls will still be too difficult to shoot for all but the most experienced canoeist but several of the lesser rapids would provide interesting paddling. The route will allow an extended trip as far as Lake Winnipeg down the Pigeon River.

Because, on the average, canoe parties are smaller and more

self-contained than rafting parties, the relative lack of campsites suitable for large parties on the stretch of the river below Round Lake will be less of a limiting factor for wilderness canoe trips than whitewater trips. As the river flows out onto the muskeg ecosystem fewer natural rock outcroppings are found meaning that campsites and scouting trails are more often situated on the fragile and thin soils. The lower river, for this reason, seems more susceptible to environmental degradation if subject to overuse.

The scenery on this stretch of river is less diverse and dramatic than the river between Vickers Lake and Round Lake. As the river flattens out towards the mouth at Lake Winnipeg, vistas increase and the opportunities for coming into contact with other groups on the river increases with the vistas.

Evidence of use by modern man increases as the river approaches the mouth at Lake Winnipeg as well. Local fishermen and hunters use motorized boats to move upstream from the lake on trips in the summer and fall. Most of this traffic takes place on the 18 miles of river below Sturgeon Falls. Local use patterns of all the rivers in Atikaki Provincial Park should be studied so that wilderness canoe use and whitewater rafting uses can be successfully intergrated.

Because of the appeal of this section of river to the whitewater canoeists, the availability of limited small party campsites, the wilderness setting and the potential connection to other canoe routes, wilderness canoeing should be the primary use of the river between Round Lake and Lake Winnipeg and this section should be designated as a non-motorized canoe route.

Primary Uses of the Pigeon River

The assessment of the three segments of the Pigeon River outlined above using as criteria scenic quality, river gradient, abundance and quality of campsites, abundance and quality of runnable whitewater, and management of required facilities makes it apparent that the stretch of the Pigeon River most suited to use by a whitewater rafting operation in Atikaki Provincial Park is the 20 miles of river between Vickers Lake and Round Lake. The primary use of this section of the Pigeon River should be whitewater rafting.

Using the same criteria and looking at the river in the larger context of Atikaki Provincial Park, this stretch and the entire course of the Pigeon River plays an important role in the establishment of interconnected canoe routes. Therefore, wilderness canoe touring should be a secondary use of the Vickers Lake to Round Lake section and the primary use of the Shining Falls to Vickers Lake stretch as well as the Round Lake to Lake Winnipeg section.

In keeping with the management priority of developing the Pigeon River primarily for wilderness river recreation, motorized sport fishing should be subject to the same restrictions as whitewater rafters on the Vickers Lake to Round Lake section and be limited elsewhere in the Park to the larger lakes where fly-in lodges are established. Non-motorized fishing trips involving canoes and/or rafts should be subject to the same restrictions as all river recreation within Atikaki Provincial Park.

Management Guidelines

1) Service Facilities -- There is a fine line between providing the necessary support facilities and taking the "wild" out of the wilderness. Wilderness canoeing and whitewater rafting require little in the way of facilities.

The river, between Shining Falls and Sturgeon Falls should be designated for wilderness river recreation and only those minimal facilities deemed necessary to support this recreation constructed. The placement of lodges, cabins or other facilities to accomodate fishermen or motorized pleasure boaters should occur only on Family Lake above Shining Falls and should be constructed off the main line of wilderness canoe routes so as to lessen the encroachment on the wilderness values. The river system, including Hangar Lake, Amphibian Lake, Viking Lake and the unnamed tributaries to the main river should be left in its wilderness state.

No facilities are needed at the outlet of Vickers Lake to enhance whitewater rafting. Rock outcroppings at the western end of Vickers Lake to the north of the outlet provide areas suitable for put-in sites. The sites should provide safe floatplane access, be flat enough to allow inflation and rigging of rafts, have several possible tent sites for overnight stays, offer a safe launching site and be far enough apart to minimize contact between groups. No fixed roof facilities or permanent campsite improvements are required. Since navigation out of the western end of Vickers Lake can be confusing, the sites should be located as near as possible to the outlet.

The site used by the October 1986 field survey team is one such site. Two to three others should be inspected, identified and designated for use by rafting parties. Other potential campsites for wilderness canoe parties traveling across the lake and down the river as part of a canoe route should be identified at other sections of the lake so as not to interfere with the launch sites of raft parties.

With the abundance of good campsites and lunch spots along the river corridor between Vickers Lake and Round Lake, no permanent facilities are warranted. Tarps can easily be rigged to ward off inclement weather and any permanent facilities would be detrimental to the wilderness values. Camping stoves and the use of firepans make fixed steel fire rings unnecessary. Low impact camping techniques and the use of "porto-potties" for human waste make permanent toilet facilities unnecessary.

Because of the need for commercial rafting outfitters to store rafts, coolers, and other equipment on-site and consolidate costly gear flights, the construction of minimal permanent facilities at a take-out site on Round Lake is warranted. Wind, rain, sun and animals can all damage expensive rafting equipment and small, rustic storage facilities will alleviate this problem.

One small site per outfitter is all that is necessary. Facilities should consist of low "caches" such as those commonly used by trappers. The facilities should be rustic in keeping with the feeling of the landscape and should be placed out of the direct line of sight near the existing fire tower at the southwestern corner of the lake.

With the existing developments already at Round Lake, the use of motorized boats on the lake, and since the site represents the ending point of most motorized raft trips, the location of these new facilities at this spot will not greatly impact the wilderness value. Concentration of the new sites at the southwestern corner of the lake will leave much of the lake's shoreline wild for those seeking a wilderness camp and those canoeists or non-motorized rafters continuing downstream.

In keeping with the development of the interconnecting wilderness canoe routes, no facilities should be constructed below Round Lake. Because of the concentration of development already existing at Round Lake and because of the screening properties of the winding channel directly below the outlet, placement of the proposed powerline should be at the outlet of Round Lake. Some proposals place the powerline river-crossing site far upstream of Round Lake a few miles above Island Falls. Despite the potential use of small outboards in the area, this stretch of river has a high wilderness value which would be depreciated by the existence of the powerline. At a point such as Round Lake which will signal the end for many trips and which is the site of the fire tower, a small cabin, the water gauge and the winter road cut, the existence of the powerline would have a much less obvious impact on the wilderness tone of the area.

2) Carrying Capacity -- Carrying capacity is an combination of verifiable environmental factors and more subjective experiential consideratons. Within that framework there are three types of carrying capacities which must be considered on the Pigeon River: physical, biological and social.

The physical carrying capacity of the Pigeon River is set by factors such as the number of suitable campsites and the potential crowding at scenic areas or scouting trails. On the Pigeon River, the two may be the same place.

Most suitable campsites identified were at the rock outcroppings created by major rapids or falls. These campsites rated high in scenic quality, water availability, and most have adequate to good launch sites. These sites, however, are also often on or near the primary trails used by parties to scout a rapids or to portaging around an obstacle. For this reason camps at major falls and rapids could be areas of high congestion.

To alleviate this problem, a more detailed survey of the river corridor and the location of potential campsites away from the main rapids must be undertaken. The focus of the survey should be on the identification of sites outside the "visual envelope" of boaters on the river.

Once the survey is complete, maps of off-river campsites must be made available for assistance in locating these hard-to-find camps. In addition, new portage trails should be constructed where possible on the opposite shore away camps at major rapids and falls. New maps may be required to divert users to these less obvious portage trails.

With new campsites and trails around rapids away from campsites from which to portage or scout, the physical carrying capacity of the Pigeon River is very high and will not be the major limiting factor on use levels.

The biological carrying capacity of the Pigeon River is also quite high. The ecosystem of the river corridor is ecologically

stable. The use of rock outcrops for campsites and portage trails pose little threat to the area. Poorly planned camps or trails could quickly impact the area however since vegetation species such as moss and lichen can be seriously damaged by trampling and can be slow to regenerate.

The mixed forest vegetation surrounding the river will provide an adequate supply of firewood in general, although the supply at popular campsites could be quickly depleted. This can be solved by requiring large parties to carry propane or white gas stoves for cooking. Camp chores are easier over the controlled flame of a cook stove and new stove designs are inexpensive, compact and require only small amounts of fuel.

With the implementation of proper low impact camping techniques the landscape around the Pigeon River should be able to withstand increased use without significant degradation. Regular on-river surveys should be undertaken by the managing agency to monitor ecological factors such as vegetation trampling, litter, firewood depletion, water quality degradation and frequency of wildlife sightings. All can be important factors in adjusting an area's carrying capacity estimates.

Trail building and campsite surveys can raise an area's physical carrying capacity. Low impact camping techniques can add to an area's biological carrying capacity. Yet, it is the less objective factors of social carrying capacity which set the upper limits of use.

Simply defined, "social carrying capacity" is the number of

groups that can be encountered on a trip before the wilderness value of the area is diminished. Continued contact with others quickly erodes the feeling of solitude, a major component of wilderness value. Recent surveys such as those conducted in 1983 by the Natural Resource Economics Department at Colorado State University show that recreational users rate the opportunity for solitude and tranquility high in their expectations of a wilderness setting while the opportunity to see others is given a very low rating. Because of the wilderness setting of the Pigeon River and the expectations of visitors for a wilderness experience, the social carrying capacity of the area is low.

Unfortunately, there is no simple formula for stating how many encounters are acceptable. One study of the "return potential" of wilderness use by the University of Wisconsin suggests that the critical number of sightings is five. According to the study, seeing five or more parties on an average trip will decrease the wilderness value.

In an effort to control the number of parties encountered by river users, most commercially-run rivers in the United States have limited launches during the high-use season. Idaho's Selway River, flowing in one of the largest wilderness areas in the continental U.S. and considered one of the prime wilderness rivers of North America, allows only one launch each day. Colorado's Yampa River allows six launches per day during the high-use; Westwater Canyon in Utah, three.

The character of the river and its corridor plays a large role in social carrying capacity. The meandering course of the Pigeon River and the thick vegetative screening restrict the

vision corridor so that groups only a short straight-line distance apart may not have contact. Yet, with the concentration of good fishing spots, campsites and scenic areas so closely tied to the river there is little chance for dispersal of groups within the river corridor.

The different traveling rates of motorized rafts and non-motorized canoes will increase the potential for encounters between groups. There is little that can be done about this fact. Designation of other parts of the Pigeon River and other rivers within the Park as non-motorized will accomodate those canoeists seeking a pure wilderness experience. Commercial passengers on motorized rafts are less likely to be concerned about the number of encounters on the river than wilderness canoeists.

The wilderness setting, constricted river corridor, the common put-in point and limited number of campsites along the river stipulates that the number of launches be set at two groups of whitewater rafters per day. If one launch is scheduled in the morning and another in the afternoon there will be no congestion at the put-in site at Vickers Lake and no competition for campsites downstream. Traveling at the same relative speed, groups of whitewater rafters would have a good possibility of completing the entire trip without seeing another group of rafters on the river, the ultimate wilderness experience.

The length of the trip is another limiting factor. The 20 river miles from Vickers Lake to Round Lake make for a leisurely 3 day motorized raft trip including flying time to and from Winnipeg. From a marketing outlook this allows for a long weekend

journey. Added time to fish or sight-see, or if the trip is to use a non-motorized raft, can make for a 5 day trip. Five day trips with two added days for travel to and from Winnipeg make a strong marketing tactic when soliciting vacation package travelers.

In addition to limiting the number of launches each day, most managing agencies have also set caps on the number of people in each party. Smaller parties have a less noticeable impact on the physical environment and are less of an intrusion when coming into contact with other groups. The Boundary Waters Canoe Area in Minnesota sets the party size limit at 10 people. Regulations for the Allagash Waterway in Maine set 12 people as the limit.

Most rafts which can be safely used on a river such as the Pigeon have a capacity of 6 people and gear (including the boatman). For safety reasons, no single boat commercial trips should be allowed on the Pigeon River. Two boat capacity then would set the limit at 12 people. Financially, a group of 10 paying customers and two paid boatmen would allow for a reasonable profit margin for a commercial operator.

Limiting the number of available launches each day will in itself set limits on the number of possible outfitters on the river. Yet, for the good of the client some choice must be offered and one outfitter should not be allowed to monopolize the whitewater rafting business on the river. For those seeking a motorized trip, the designation of at least two operators would provide the needed competition and choice. The same number would be adequate for the non-motorized users.

This would allow for as many as 4 operators on the Pigeon

River unless one outfitter chose to offer both motorized and non-motorized services. In that case the minimum number of outfitters would be 2. Since it is unlikely that all of the outfitters would require separate facilities anywhere in the river corridor except perhaps at Round Lake, this number is not likely to degrade the wilderness experience significantly. If other outfitters can offer a worthwhile service not offered by any of the established operators, an increase in that number should be considered on a case-by-case basis.

It would be a mistake however to consider only commercial use of the river when figuring carrying capacity. While most of the use of the Pigeon River at present may be through commercial rafting, studies show that as use of a river increases a percentage of those who once participated in commercial trips return to the river for private expeditions. A marketing plan aimed at commercial passengers will also alert a number of private boaters to the potential of the Pigeon River.

On most whitewater rivers in the western United States permit quotas have been set at approximately 65% commercial and 35% private. Because of the role of the Pigeon River in extended canoeing routes in Atikaki Provincial Park it would be difficult to establish such a limiting system on private use of this section of the river at this time. Most areas where verifiable information on private river running demand has been lacking have established a system of free but required permits. Information on the use patterns of the river by private boaters can then be gathered over time and the regulations adjusted accordingly.

On most whitewater rivers in the West up to 90% of the private use comes from local residents. Because of the remoteness of the Pigeon River the vast majority of this use will come from outside the region. This will require a more vigorous interpretive campaign. The free but required private permits can be a major part of this campaign by dispensing low impact camping techniques, regulations and river safety information to private boaters. Group size limitations and other regulations required of commercial trips should also apply to private expeditions.

3) Low Impact Camping Techniques -- Floating quietly down a river the impact of the boaters vanishes as quickly as the water can still behind the boat. River recreation can be a very low impact activity and even in a place like the Pigeon River with its thin soils and short growing season following a few simple "no trace" camping techniques can make the footprints on the land vanish almost as quickly as the ripples on the water.

To some users, the challenge of leaving no sign of their passing has become almost as strong as the challenge of shooting the rapids or scaling to the summit of the mountains. This sort of challenge should be inspired in all the users of Atikaki Provincial Park through a program of user education. Low impact regulations should be distributed to private users through permit application documents. Commercial boatmen should be trained in seminars held yearly by the commercial operators and overseen by the Manitoba Parks Branch.

A) Preparation -- Low impact camping begins long before the canoe is loaded or the first rapids is run. Preparing for a trip with no-trace camping in mind is the first step. The biggest

single item of importance is menu planning. The trip menu should be made up of foods which create a minimum of garbage. Packaging should be removed at home and all foods stored in plastic zip-lock bags or hard plastic containers both of which can be hauled out after the trip. No glass containers should be brought on any wilderness trip and even canned goods can be transfered to plastic containers to eliminate weight and garbage.

Certain foods create waste problems. Grease from bacon or sausage or other meats can attract animals if buried or burned on the fire and is messy and smelly if hauled out of a long trip. The best course with grease is to plan meals which do not create any. If grease is created it should be left to harden and then carried out with the other garbage.

Plan food amounts so as to minimize left-overs. As with grease, left-overs should never be buried, burned or thrown in the river. If left-overs cannot be re-used at another meal they should be bagged in zip-lock plastic bags and carried out with the other garbage.

Dishwater, if it contains food scraps, should be strained with the water allowed to soak into an area of deep soils and the scraps tossed in the garbage to be carried out. Never throw water with dishsoap directly into the river.

No garbage should be burned in the campfire. Plastics create a toxic smoke, many paper wrappers are lined with aluminum foil which creates scraps which do not burn and the odors produced by burning bits of paper with food scraps on them can attract animals to campsites. Anything small enough to be burned is small enough to be compacted in a garbage bag and carried out. Even the

old axiom "Take only pictures, leave only footprints" has been modified to "Take only memories, leave nothing". That way the wilderness will still be wild the next time you pass through.

B) Fires -- The only product of the forest that most river trips consume is firewood. Firewood should only be collected from the ground, downed trees or drift wood. No branches should be removed from standing timber. All rafting parties should be required to carry a small aluminum or metal firepan. The pans, which can be designed to fit below or above coolers when rigging a raft, prevent the charring of the ground by the fire, require no hole dug to contain the fire, prevent root fires and lessen the chance of forest fires started by fires left burning when campers move on. Ashes can be carried out in empty "ammo cans" by commercial rafting parties or, can be spread in the vegetation around camp. Scraps of aluminum foil and bits of food or non-burnable garbage should always be removed from ashes before scattering.

Many of the obvious campsites along the Pigeon River already have multiple firerings. Never build a firering where one is already present. The large rock rings found at several sites should be dismantled to encourage the use of firepans and stoves.

All parties should be encouraged to use lightweight, portable cookstoves for meal preparation. Modern stoves are easy to pack, start quickly and provide an easier cooking surface than an open campfire. "Cold camps", camps without campfires where the cooking is done on portable stoves are the least abusive to the landscape.

C) Human Waste -- On the rivers of the arid southwestern United States where decomposition rates are slow, the "leave nothing" motto extends as far as solid human waste. Lightweight "porto-potties" are required equipment on every river trip.

Given the current low levels of use on the Pigeon River and its more humid climate where decomposition rates are faster, such a system is not yet necessary for small private parties such as wilderness canoeists. Here, the "cat-hole" method is adequate. This entails finding a spot away from camp with deep soils, digging a shallow hole 4 - 6 inches, depositing the waste and replacing the topsoil over the hole. Stopping at lunch time or at spots other than regular campsites would help to distribute the disturbance of the cat-hole method. Large commercial rafting parties should be required to carry "porto-potties" and carry out all solid human waste.

Toilet paper should never be buried. It decomposes slowly and can be strewn around by animals digging up cat-holes. The process of storing matches with the toilet paper so that it can be burned at the cat-hole has led to many forest fires and is not recommended. Toilet paper can either be burned in the campfire or, as with other burnable garbage, be stored in plastic bags and carried out.

D) Personal Hygiene -- All soaps, given time are bio-degradable, yet some products contain much less phosphorus or other chemicals which require a long period to break down. Always use "bio-degradable" soaps and shampoo. Washing, bathing and tooth brushing should never be done directly in the river. A large pot should be filled with water and carried at least 100

feet from the river to be used for lathering and rinsing. Never pour soapy water directly into the river. Dumping it 100 feet from the river into deep soils allows the water to be naturally strained before re-entering the river.

E) Drinking Water -- It seems so natural, dipping a cup into the Pigeon River for drinking water. At present use levels and with little development upstream, water quality in the river seems to be high. Yet, the Pigeon River is beaver habitat and beaver are a proven carrier of Giardia lamblia, an intestinal parasite. The parasite, which can be carried in the intestine of any warm-blooded mammal -- moose, beaver, caribou, dogs or humans -- causes an illness known as "giardiasis" with symptoms such as extreme diarrhea, stomach cramps, dehydration, nausea and weight loss.

The only way to insure drinking water is safe is to carry a clean supply. Methods such as filtration and chemical treatment have varying degrees of success in removing the parasite from the water. Boiling water for 10 to 20 minutes is still the most effective measure against giardiasis and other water-borne parasites. If the water quality is in question, all water should be treated including water for cooking and preparing food, washing dishes, as well as water for brushing teeth.

Tests of water quality and for the presense of Giardia lamblia should be conducted by the Manitoba Parks Branch on the rivers and lakes of Atikaki Provincial Park.

4) Commercial Boating Guidelines -- The Pigeon River is a

whitewater river. The challenge of its whitewater is accented by its remoteness. This combination of potential danger in the rapids and lack of rescue potential requires special concern for the skill and training of commercial boatmen.

All commercial boatmen should be required to obtain certification in Basic First Aid, Advanced First Aid, CPR and Swiftwater Rescue. Classes are offered from many sources including the Red Cross chapters, Rescue 3 out of California and many whitewater organizations in the United States. Rescue 3, one of the world's most respected whitewater training organizations, conducts field classes at the request of government agencies or whitewater outfitters. Rescue 3 has certified more than 6,000 individuals in 450 different organizations in three countries. Classes can be arranged by contacting Rescue 3, P.O. Box 4686, Sonora, California 95370 (209)532-7915. Reference books are available on Swiftwater Rescue through Rescue 3 and other books such as THE GUIDES GUIDE by William McGinnis, RIVER CAMPING by Verne Huser, and THE WHITEWATER BOATMAN by Robert S. Wood should be availble to all guides on the Pigeon River.

Boatmen should be required to complete a training trip on the river with qualified river runners before being allowed to run a boat with commercial customers. Training trips with all the guides in spring and the running of baggage boats are used on other rivers to acquaint new commercial boatmen with the river.

Each raft should be required to carry an adequate first-aid kit, throw bags, extra oars, extra lifejackets and other rescue gear. Passengers and boatmen should be required to wear type III or type V coastguard approved lifejackets. No "horse-collars" or

other class of lifejacket is suitable for whitewater rafting on the Pigeon River.

Because of the remoteness of the river, the first avenue of rescue is represented by the air traffic. All parties should be required to carry a signalling mirror and/or flares to attract the attention of passing airplanes in case of an emergency. A system of mutually-understood signals should be worked out between local pilots and river runners to communicate from air-to-ground. In Alaska a system has been devised and is placed on the back of all fishing licenses issues as well as placed in aircraft to assure the use of recognizable signals. Signal codes could be placed on the back of all permits for private trips on the Pigeon River and taught to river guides by the outfitters.

The Unique Resource: Pigeon River

The principal resource of value to recreational users of the Pigeon River and Atikaki Provincial Park is the wildness. Few places in the United States can offer such an extended river running experience in such a pristine wilderness setting. Wilderness canoe trips of 2 to 3 weeks are nearly unheard of in the lower 48 states outside of the Boundary Waters Canoe Area. The Pigeon River and the larger context of Atikaki Provincial Park can provide a wilderness river experience of a length and quality found few places outside of Alaska.

The character of the rivers of Atikaki -- including the Pigeon, the Bloodvein and the Leyond -- offer a wide spectrum of challenges to the river runner. A canoeist with little or no

whitewater experience can still enjoy the area by planning a route through many of the wilderness lakes and then portaging around all the major obstacles found on the rivers. Paddlers of intermediate skills will find many Class I and II rapids to add excitement on any of the rivers. Advanced and expert paddlers will find Class III rapids to test their skills. Rafters, with proper skill and training, will find Class IV and V whitewater in the dramatic falls of a kind rarely found on other North American rivers.

There are finer wilderness whitewater rivers in many places throughout the U.S. and Canada, rivers like Idaho's Selway and the Rogue River in Washington. Places such as the Boundary Waters Canoe Area, Quetico and the Allagash Waterway offer high quality lake and stream system canoeing. But, Atikaki Provincial Park offers one of the highest quality wilderness lake-river system canoe routes on the continent. The good scenery, opportunity to see wildlife species such as woodland caribou, eagle, river otter, black bear and osprey, the high water quality, dramatic whitewater and wilderness feeling all combine to make this an important river recreation resource.

Demand for river running in general has increased dramatically over the last decade. Use of the Allagash Waterway in Maine increased 70% between 1969 and 1973 when limits were set through regulation. Use of the Colorado River through the Grand Canyon in Arizona increased from 547 rafters in 1965 to 15,219 rafters just 8 years later in 1973 when restrictions were imposed. Today, on the Arkansas River in Colorado, one of the

last unregulated major rivers in the West, more than 75,000 people raft Browns Canyon in a two-month season. In all, nearly a half-million people went river running on Colorado's rivers in 1986.

Although Atikaki Provincial Park and the Pigeon River will never rival the Grand Canyon for whitewater rafting demand, several trends in river running statistics point to a growing demand and market for the kind of resources offered here. As stated elsewhere, studies show that people who take commercial raft trips are often on their first river experience. The same studies show that the greatest percentage of commercial users will take another commercial river trip in the future and that they often seek out new, more wilder rivers for their future expeditions. Marketing the Pigeon River as a "new" alternative choice would be helpful in soliciting business from this part of the market.

Studies also show that persons introduced to river running through commercial river trips often purchase their own gear and outfit private trips. The growing number of whitewater schools across North America are also swelling the ranks of the private boater. Because of the high cost of rafts and associated equipment, the majority of private boaters are canoeists and kayakers. The Pigeon River and Atikaki Provincial Park should seek both markets -- private and commercial. The ability to offer a spectrum of river opportunities including commercial whitewater trips, private extended wilderness canoe expeditions and shorter commercial canoe trips combining rivers and lakes should make the Park and its rivers a marketable resource.

With the crowding of rivers in many places like the Arkansas River, an important attribute of the Pigeon and Atikaki Provincial Park will be its opportunities for solitude. As mentioned above this opportunity for solitude and tranquility has ranked high on all surveys of wilderness and wild river users. Regulations which may seem too drastic today for a remote river such as the Pigeon will go a long way towards insuring the solitude of the river runner in the future.

With this high demand for commercial trips and the growing experience of private boaters, it is safe to assume that the majority of river runners in Atikaki Provincial Park will have experience on rivers elsewhere. With this experience regulations such as the use of firepans, porto-potties, low impact camping techniques and limited launches will be understood making management for the wilderness setting easier.

All management decisions -- from limiting motorized use to requirements for firepans -- should be made with the realization that wilderness, not the roller-coaster rides of the rapids, is the main feature which makes the Pigeon River and its surroundings such a valuable river running resource.

Integration of Uses

River running is more than just floating down a river. Most rafters are also fishermen, some have experience canoeing or have participated in other river-related recreation. Because of this, integration of uses such as whitewater rafting, fishing and

canoeing will not be a limiting factor.

Scheduling and routing of wilderness canoe trips within Atikaki Provincial Park will play an important role. With alternate rivers such as the Bloodvein and the Berens canoeists can enjoy extended trips and not come into contact with the motorized rafts on the Vickers Lake to Round Lake section of the Pigeon River.

Sport fishing from small boats can be integrated into the Pigeon River recreational plan but should be subject to all of the same regulations including motor size limits and all camping regulations for overnight stays on the river. With no facilities constructed within the river corridor from Shining Falls to Sturgeon Falls, sport fishing should be encouraged on lakes outside of the main wilderness river travel area on such lakes as Family lake.

To further maintain the wilderness quality of the river corridor, flight patterns should be suggested to pilots which route air traffic away from areas of concentrated use. Low flying planes can be a safety factor for wilderness travelers in cases of emergency but also tend to disrupt the wilderness feeling of an area.

Conclusion: Pathway to the Future

Although the Pigeon River did not represent a major travel route in the past, its management for use as a river recreation resource can make it a pathway into the future. Unlike many of the whitewater rivers elsewhere where management plans have been

instituted as a result of damage already inflicted, the Pigeon River and Atikaki Provincial Park still represent a relatively pristine environment. Maintenance of this environment requires strict regulations on use, low impact camping techniques and management. Although it has been stated that the primary use of the Pigeon River should be whitewater rafting and the primary use of Atikaki Provincial Park should be non-motorized river recreation, the primary objective of its managers must the be the protection of its wilderness. Use levels can be raised or lowered, new regulations can be stipulated and enforced, new procedures can be created but the wilderness of the Pigeon River cannot be stipulated, manipulated or created. It can only be preserved.

APPENDIX A

The International Whitewater Scale

CLASS I -- Water moving or affected by current, including small riffles or waves. No rocks, falls, riverbends or obstacles which require maneuvering of the boat.

CLASS II -- Moderate current, small rapids with waves up to 3 feet, clear and obvious channels not requiring extreme maneuvering or scouting.

CLASS III -- Strong currents, various channels, waves up to 5 feet high, route-finding difficult, some strong maneuvering required for safe passage. (In general, Class III is considered the upper limit for rafting by an intermediate-skilled boatman and is the upper limit for open canoes except by experts in some circumstances).

Class IV -- Long, difficult rapids or steep and powerful drops requiring precise maneuvering in turbulent waters. Scouting is imperative due to intricate series of moves required. Portaging is advised for all but the skilled river runners equipped with the proper boats and saftey gear.

Class V -- Violent rapids with no obvious routes, difficult, dangerous maneuvers required to avoid serious and numerous obstacles. Rescue potential low. Class V rapids require portaging for all but the most expert paddlers and are not considered feasible for most commercial whitewater operations.

Class VI -- Unnrunnable with any degree of saftey. Portaging is required for all boaters.

Note: A "+" or "-" symbol can be used to distinguish small variations among the classes due to waterlevel or other factors.

APPENDIX B

Description of Whitewater

Vickers Lake to Round Lake

(Numbers correspond to numbers on maps)

1. Outlet of Vickers Lake -- Located just at the outlet of Vickers Lake, a single drop of 4 to 6 feet that curves around several large boulders. Not runnable by most open canoes, easily portaged on the right. Class II.

2. Unnamed -- Located several kilometers downstream from the lake, this is the first of the classic Pigeon River falls. It is a quick ledge drop of 6 feet where the river is then squeezed into a sharp right hand turn by a small island. Very scenic, the run is tight to river right with power to break the large reversal wave and then pulling to the right to avoid the river crashing into the rock island. Not runnable by most canoes, easy portage on the right. Class III.

3. Unnamed -- Located at the head of the left channel around the first huge island. This is the first real "rapids" on this stretch of river. It is a jumble of rocks stretched over several hundred yards of river. Sharp rocks and a quick left turn require extreme maneuvering but the rapids is not as steep as the falls on the river. Low water run is tight river left over the drop and a quick pull left into open channel. High water run may be very different so scouting is required. Possibly runnable by some canoeist. Class II+.

4. SOB -- One of the classic rapids/falls on the Pigeon River. Located at the middle of the left channel around the huge island, SOB is a difficult and dangerous falls. The main channel is tight to river right through a narrow chute with sharp rocks and huge whitewater waves below. Precise maneuvering is required to hit the chute on line and straight. Not runnable for canoes, easy portage or line for both canoes and rafts at the extreme river left. Scouting is required, from both sides of the river is the falls is to be run, portaging is recommended for most groups. Class IV+.

5. Unnamed -- Within sight of SOB upstream, this drop does not get the respect it deserves. Being so close to SOB it seems small but has a good drop and powerful reversal waves, as well as some sharp rocks at low water. Run is close to the wall river right at low water, may vary at different water levels. Possibly runnable

by some canoeists. Class II+.

6. Anniversary Falls -- Located after the river rejoins into a single channel, Anniversary Falls is a combination falls and rapids. Its head is split by a large boulder which creates a double "tongue" to the falls. The river right tongue slams into the rock wall on the right causing violent reflecting waves and a rough ride. The river left tongue is smoother but requires precise positioning to keep from going over a large pour-over tight against the left bank. The channels both drop into a large, violent pool which flushes out into a series of high standing waves. Scouting is required. Not runnable by most canoes, portage is on either side. Class III.

7. Crooked Foot Falls -- Located at a sharp right hand bend in the river, Crooked Foot is identified by several chutes of easily runnable fast water above it and a plume of mist rising from the main falls. It is a difficult rapids due to the choice of channels. River right is the main drop, a steep and powerful falls. The middle channel is an angled drop over a long chute with some sharp rocks appearing at low water. River left is a jumbled rock garden. At mid-levels of water, the middle channel has been successfully run in rafts. All levels require scouting. Not runnable by most canoeists. Portage on the left or right but the right is more clear and there is even a possible portage at low water over the rock island in the middle of the river. Main drop is Class IV to V, middle channel is Class III, left channel is also Class III.

8. Unnamed -- Located at a sharp right bend in the river, this is also a combination falls/rapids. The upper drop is a short, 3 to 4 foot bend with an obvious tongue and small reversal wave. The second section is a rocky course requiring some maneuvering. Possibly runnable by some canoeists, portage on the right. Class II+.

9. Canyon Rapids -- Another section of "rapids" as opposed to falls. The river is squeezed into a narrow gorge but offers a clear channel filled with medium sized waves. Several sections of easy fastwater are below. Runnable by some canoeists, long portage on the left. Class II.

10. Unnamed -- A single drop, short with strong reversal waves below. Easy portage on the right. Class II+.

11. Unnamed -- In a garden of house-sized boulders, the river is torn into several small channels around a oblong rock island in mid-stream. Easy chute to river right offers only small waves and a clear channel. Runnable by some canoeists. Class I to II.

12. Island Falls -- On the left channel of an island, this is a dangerous double drop. At the head, the river bends right and drops over a respectable Class II+ drop with an obvious route and good reversal waves. The danger however is the main drop only a hundred yards downstream. Scouting should be done before taking

the first drop to avoid the possibility of being swept through the lower drop unprepared. Scout on the right.. The main drop squeezes the river tight up against the rock wall at river right and pours over a slanted drop of 15 to 20 feet into a large reversal wave and many hidden rocks. The run, only for experienced and skilled rafters, is tight up against the wall on the right and hitting the reversal with power. This wave has flipped and held rafts and should be treated with respect. It is possible to run the upper drop and get out on river left to line or portage the lower drop. Not runnable by most canoeists. Lower drop is Class IV to V.

13. Unnamed -- Another place where the river is squeezed into a narrow and scenic gorge. Whitewater is present but has a clear channel and only moderate waves. Runnable by some canoeists. Class II.

14. Unnamed -- Yet another canyon that speeds up the river. This time the rapids leads into a rock wall where the river turns sharply left leaving a powerful eddy to the right. Possible runnable by some canoeists. Class II+.

15. Unnamed -- A small island again splits the river, the right channel has a small drop with a straight-forward entry and obvious channel. Runnable by some canoeists. Class II+.

16. Grants Falls -- The final rapids before Round Lake is a respectable drop with a powerful reversal wave and some sharp rocks to avoid at low water. Portage on the right. Not runnable by most canoeists. Class III.

The above listed rapids indicate only those considered as major obstacles to a whitewater raft as surveyed by a low water field trip in October of 1986. All parties unfamiliar with the river should scout all rapids many of which are impossible or difficult to judge from on the water upstream. The strong currents and reversal waves caused at the bottom of many of these falls and rapids are more powerful than they first appear. All rapids and falls should be treated with respect and thoroughly scouted. All the rapids and falls on this stretch of river can be portaged or lined by parties without adequate equipment or whitewater skills.

APPENDIX C

The Case for Catboats

In an attempt to both protect the wilderness quality of the Pigeon River corridor and promote a viable whitewater rafting industry, commercial outfitters and the Manitoba Parks Branch should consider the use of "catboats" on the Pigeon River. The catboat, also called cataraft, is the latest and most advanced development in whitewater raft design. The boat is a double-hulled craft with each side comprised of two inflatable tubes held together by a specially-designed frame (see Photograph A). This boat, marketed under the brand name "Argonaut" would be of great benefit to the rafter on the Pigeon River for several reasons:

1) The boat's revolutionary design makes the craft more aerodynamic, creates less drag on the water than a conventional raft and is therefore much easier to row. With the catboat stretches of river where the rapids are more closely spaced would require less use of the outboard, reducing the noise impact (see Photograph B).

2) The design of the boat also has at least two distinct advantages in the whitewater of the Pigeon River. First, it is self-bailing which keeps it easy to row in places where closely-spaced rapids prevent bailing. Secondly, its tapered, up-turned bow would cut through the large and dangerous reversal waves more easily than a conventional raft making the whitewater safer (see Photographs C and D.

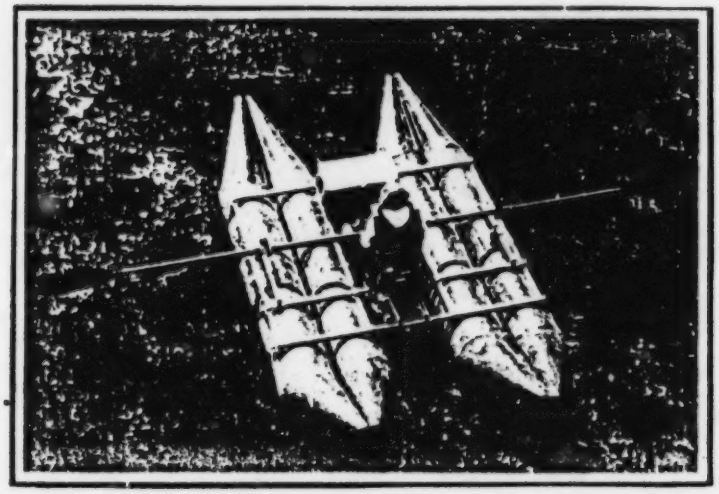
3) Its design of tubes and a frame make much lighter than a conventional raft and easier to disassemble and haul in small floatplanes.

4) An outboard motor can still be mounted on most frame designs to allow use on the stretches too long to row.

The catboat has been tested and commercially-run on many of the most difficult Class V whitewater runs in the western United States and Canada. It can be fitted with frames to allow both maximum gear-hauling capabilities and comfort for the commercial passenger. Use of such a craft would lessen the impact of outboard motors both on the ecosystem of the Pigeon River and on the commercial passenger.

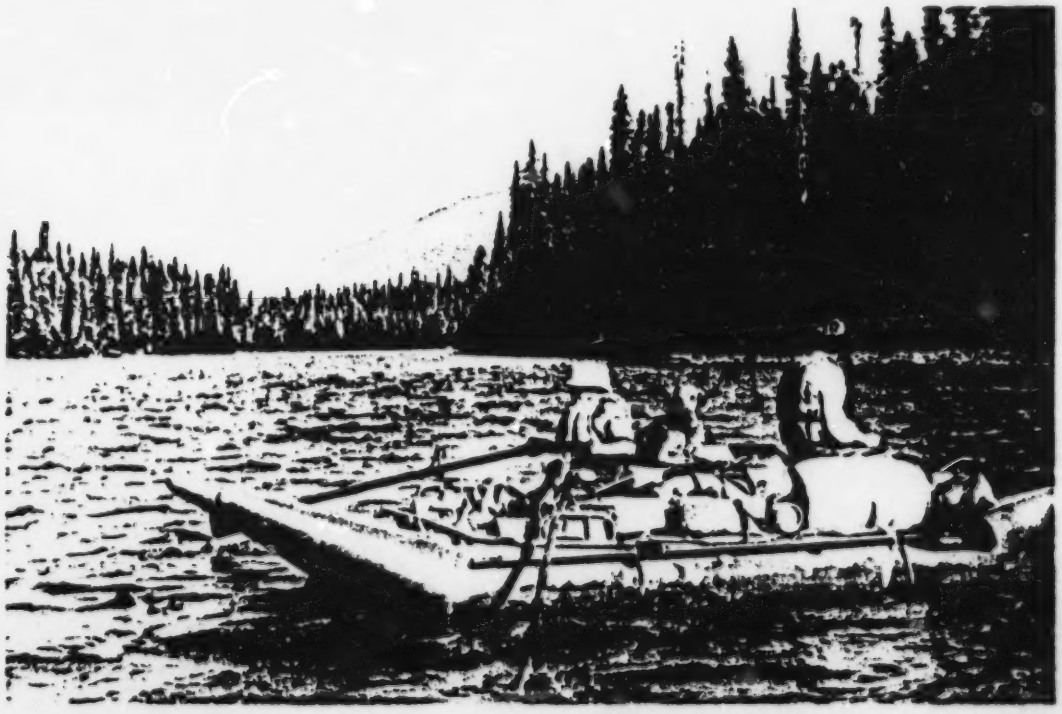
Kris Walker, designer of the Argonaut, a brand name of catboats, has run his craft on such Canadian waterways as the Skeena River in British Columbia. Walker has agreed to travel to the Pigeon River upon request of the Manitoba Parks Branch and/or the Pigeon River outfitters and demonstrate the advantages of the catboat. For more information contact Kris Walker, Argonaut Rafts, 330 Apache Road, Gunnison, Colorado, United States, 81230 (303)641-3568 or (303)237-4248

PHOTOGRAPHS



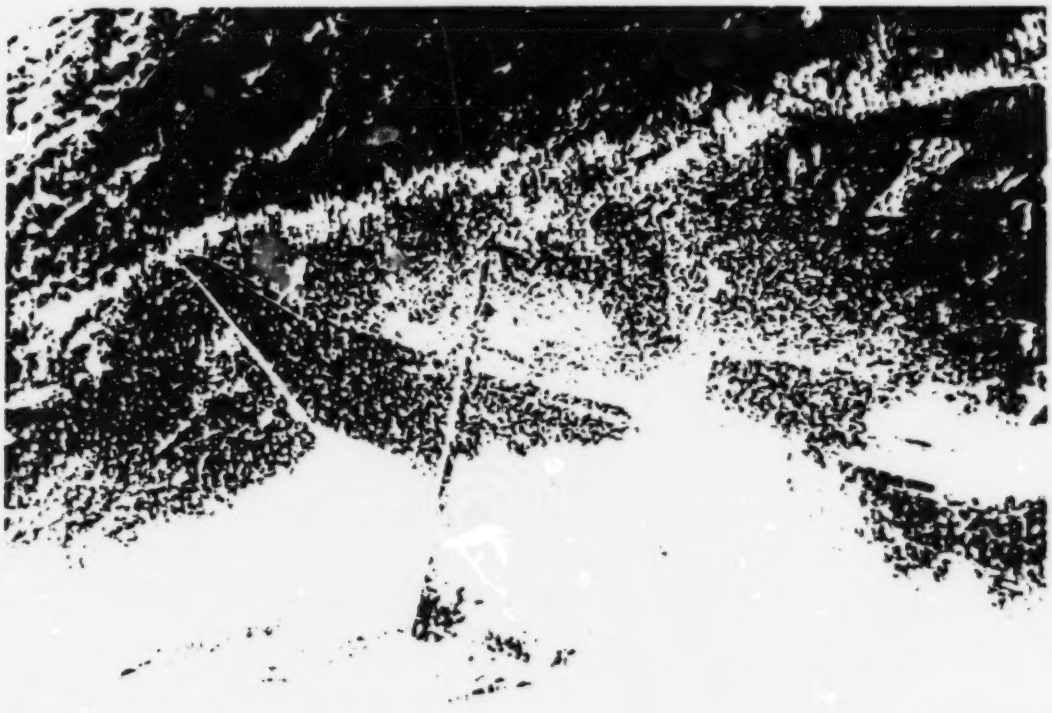
Photograph A

The "catboat" or Argonaut is made up of a pair of two-chambered tubes each 200 inches long and 18 inches in diameter. The tubes are made up marine grade 32 ounce PVC on dacron and come in royal blue. Set on any of several lightweight frames which can be disassembled for transport. Although prices vary, catboats and frames are generally less expensive than conventional boats and frames.



Photograph B

Photograph B (continued) Despite its unusual design, the catboat can carry comparable loads to any conventional raft. With a moderate load, the catboat has 48 feet of air-filled tubes on the water, nearly twice the square-footage of floatation on a conventional raft. The tapered and uplifted ends limit the draft of the boat and make it much quicker and easier to row on flatwater.



Photograph C

The upturned bow of the catboat also makes the front of the boat rise over and cut through large reversal waves more easily than a conventional craft. This feature could be particularly important on the major falls of the Pigeon River where reversal waves can be powerful and dangerous. In this sense and in the fact that catboats are self-bailing, this craft could make whitewater rafting safer on the Pigeon River.

Photograph D

The catboat has been tested and run commercially on some of the most difficult class V whitewater runs in the western United States and Canada. Here, the craft runs a rapids on the Skeena River in British Columbia.

Photograph E

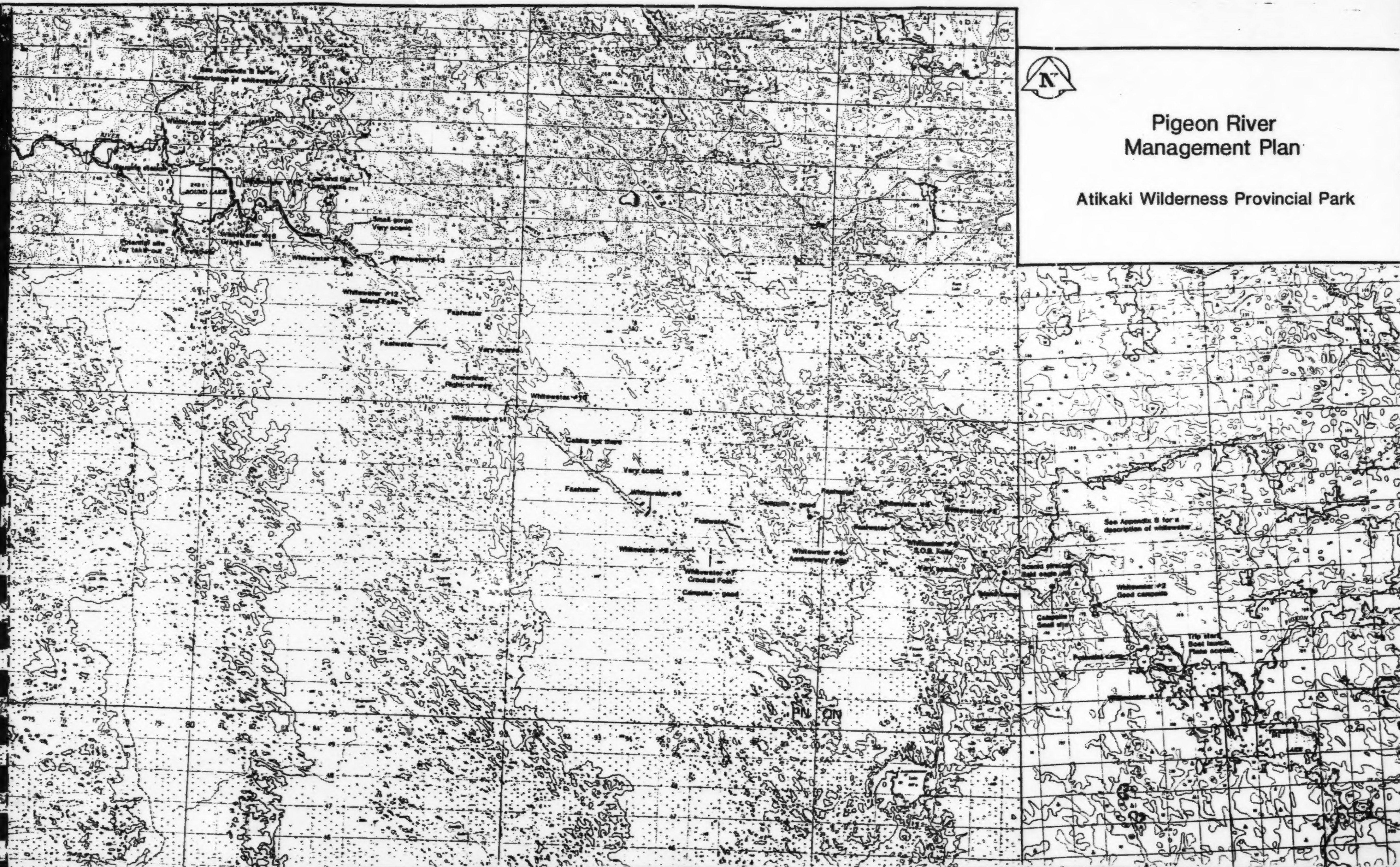
Photograph E (continued) Although the Pigeon River has received relatively little use, the hand of Man is not completely unseen along the river corridor. Large rock firepits such as this one should be discouraged along the river. By using propane or white gas cooking stoves the use of campfires will be limited as will their impact on the soils, vegetation, wood supply and wilderness character of the river corridor.

Photograph F

The whitewater on the Pigeon River was formed by uneven erosional patterns resulting in quick, dramatic drops and falls. This creates both beautiful falls and exciting whitewater. The scenery and recreational activity of the Pigeon River is almost entirely centered along its falls and rapids. Some of the best campsites are found along the rocky outcrops which form these rapids and falls. Because these areas are scenic and because of the need to scout or portage the rapids, these will be areas of high use along the river corridor.

Pigeon River Management Plan

Atikaki Wilderness Provincial Park


N
ROUND LAKE
Potential site for take-out
Small gorge
Very scenic
Whitewater #13
Whitewater #12
Island Falls
Fastwater
Fastwater
Very scenic
Powerline
Right-of-way
Whitewater #10
Whitewater #11
Cabins not there
Very scenic
Fastwater
Whitewater #9
Fastwater
Whitewater #8
Whitewater #7
Crooked Falls
Campsite - good
Campsite - good
Fastwater
Whitewater #6
Anniversary Falls
Whitewater #5
S.O.B. Falls
Very scenic
See Appendix B for a
description of whitewater
Whitewater #2
Good campsite
Trip start
Boat launch
PN
ON
80